

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

RECEIVED

JUN 26 1995

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Part 95)
of the Commission's Rules)
to Allow Interactive Video and)
Service Licensees to Provide)
Mobile Service to Subscribers)

WT Docket No. 95-47
RM-8476

DOCKET FILE COPY ORIGINAL

To: The Commission

Comments of The National Action Group for IVDS

The National Action Group for IVDS (National Action Group) hereby submits these comments in response to the Notice of Proposed Rule Making adopted by the Commission on April 13, 1995, in the above-captioned docket.¹

The National Action Group supports the elimination of rules and policies that artificially impede the IVDS community from developing a broad menu of viable consumer services. Therefore, in addition to supporting the Commission's proposal to allow IVDS licensees to serve non-fixed locations, the National Action Group urges the

¹ Amendment of Part 95 of the Commission's Rules To Allow Interactive Video and Data Service Licensees To Provide Mobile Service to Subscribers, FCC 95-158, (released May 5, 1995) (Notice of Proposed Rule Making) [hereinafter *Notice*].

The National Action Group is a coalition of IVDS licensees that occupy over twenty markets nationwide. The coalition members include IVDS license holders in a number of major markets, such as New York, Detroit, Boston, Houston, Los Angeles, Washington, D.C., Chicago, Philadelphia, Seattle, and Cleveland, as well as several smaller markets. Based on the number and size of these markets, it is estimated that the members of the National Action Group are capable of providing IVDS service to over 40 percent of the U.S. population.

No. of Copies rec'd
List ABCDE

014

FCC to eliminate or relax several technical rules that have proven even more problematic to the development of innovative, spectrum efficient IVDS service offerings. In particular, as discussed below, the FCC should: (1) eliminate or substantially modify the five second per hour duty cycle on remote transmitter units (RTUs), (2) increase maximum permitted power limits, particularly for IVDS cell transmitter stations (CTSs) located at or near the Grade B service contour of affected TV Channel 13 stations; and (3) allow CTS-to-CTS transmissions on a primary (*i.e.*, non-ancillary) basis. Removal of these restrictions will serve the public interest by allowing IVDS to reach its full potential as a viable option in the communications marketplace.

I. Background

In May of 1994, Eon Corporation (Eon) filed a Petition for Rule Making asking the Commission to amend its rules to accommodate refinements in Eon's technology that eliminate the need for subscribers to remain near their television sets or within an enclosure to obtain IVDS service.² Eon explained that the rule changes it requested would allow IVDS licensees to provide new and innovative mobile communications at prices competitive with existing service options. Eon also noted that its technology

² Eon Corporation, Petition for Rule Making at 1, 4-8 (filed May 11, 1994) [hereinafter *Eon Petition*]. See also Notice at ¶¶ 3-4.

would afford IVDS service providers greater flexibility to customize their offerings to the specific needs of individual customers.³

On April 13, 1995, the Commission adopted a *Notice of Proposed Rule Making* endorsing Eon's proposals. In particular, the Commission proposed to amend its rules to permit IVDS licensees to provide ancillary mobile services to fixed subscribers within their service areas.⁴ The Commission premised this proposal on its findings that "allowing IVDS licensees to use excess capacity to provide limited mobile services will enhance economic and spectrum efficiency, without impairing the purpose of the service" and will "enhance telecommunications service offerings for consumers, producers, and new entrants, and encourage rapid deployment and growth of IVDS services."⁵

Under the Commission's specific proposals, the primary use of an IVDS system must be to provide subscribers at fixed locations the capability to interact with video, data, or other services. The offering of mobile services alone would not be permitted. Similarly, the Commission proposed to restrict the provision of mobile service to fixed service subscribers.⁶ Consistent with Eon's technical design, the Commission proposed to limit the ERP of mobile RTUs to 100 milliwatts. In addition, in light of

³ *Id.* at 7.

⁴ *Notice* at ¶ 8.

⁵ *Id.*

⁶ *Id.*

Eon's proposed ERP, the Commission queried whether all RTUs -- fixed and mobile -- are capable of operating at 100 milliwatts.⁷ Finally, the Commission proposed to apply its existing five second per hour duty cycle limit to mobile RTUs.⁸ Comment was sought on all aspects of the Commission's proposals.

II. The Commission Should Allow IVDS Licensees Maximum Technical and Operational Flexibility To Provide New and Innovative Service Offerings.

As discussed in detail below, the National Action Group strongly supports the adoption of rule changes that will afford IVDS licensees the technical and operational flexibility to provide a full panoply of practicable service offerings. Although the Commission's original perception of IVDS as a low cost, convenient method for two-way interaction between television viewers equipped with a set-top box and commercial and educational programmers⁹ remains valid today, an interactive video application with broad market appeal is yet to be devised. Likewise, the interactive video offerings that are currently available -- which are, for the most part, limited to play-along games -- are not sufficiently appealing to prompt consumers to purchase even an inexpensive set-top box. In view of these limitations, the National Action Group does

⁷ *Id.*

⁸ *Id.* at ¶ 9.

⁹ See Amendment of Parts 0, 1, 2, and 95 of the Commission's Rules To Provide Interactive Video and Data Services, 7 FCC Rcd 1630 (1992) (Report and Order) [hereinafter *IVDS Report and Order*]. See Also, Amendment of Parts 0, 1, 2, and 95 of the Commission's Rules To Provide Interactive Video and Data Services, 7 FCC Rcd 4923 (1992) (Memorandum Opinion and Order) [hereinafter *MO&O*].

not expect viable interactive video applications to be devised quickly enough to allow the successful operation of systems offering *only* interactive programming at any time during the next 3-5 years.

Because interactive video service offerings are still in the early stages of development, licensees facing stringent build-out requirements and financial obligations have begun to explore alternative applications. The licensees' objective is two-fold: (1) to develop offerings that will appeal to a sufficient number of subscribers to reduce the cost of service on a per subscriber basis, making the overall cost of IVDS service affordable for individual consumers; and (2) to generate demand that will allow development of an infrastructure capable of delivering IVDS service to the maximum number of subscribers. Once licensees begin earning a return on their capital investments, they can turn toward deploying viable video applications, such as those initially envisioned by the Commission. In the interim, however, permitting IVDS spectrum to be used in innovative alternative applications, consistent with the FCC's original intent,¹⁰ will serve the public interest by fostering effective spectrum use and helping to ensure the long-term success of IVDS. To this end, the National Action Group urges the FCC to address expeditiously its policies relating to the following areas.

¹⁰ As its name suggests, the Interactive Video and Data Service is permitted to provide two-way interaction with any data delivery service in order to provide "subscribers a wide array of interactive services." *MO&O*, 7 FCC Rcd at 4924.

IVDS Mobility. The Commission's proposal to allow IVDS licensees to provide service to non-fixed locations represents a significant step toward elimination of the types of restrictions that prevent IVDS from reaching its maximum potential. This increased flexibility will serve the public interest by promoting economic and spectrum efficiency, enhancing the variety of telecommunications service offerings, and encouraging rapid deployment and growth of IVDS infrastructure.¹¹ For each of these reasons, the National Action Group supports the Commission's proposal to allow mobile IVDS applications.

The National Action Group takes issue, however, with the proposal to limit the provision of mobile services to fixed service subscribers only. The success of IVDS is dependant upon service providers being able to offer a broad menu of services to a wide variety of potential market segments. Regulations that require subscribers to receive one type of IVDS service before being eligible to receive another arbitrarily limit IVDS licensees' ability to solicit business from all possible consumers. Similarly, the Commission's proposal to restrict mobile IVDS to an ancillary-only basis unnecessarily prevents consumers from being able to order the service packages they demand. Given the need for IVDS providers to develop communications services in a highly competitive marketplace, it is inappropriate for the Commission to retard or limit potential innovations. If the IVDS service develops in a manner contrary to FCC intent, appropriate measures can then be taken. But for now, the Commission should

¹¹ Notice at ¶ 7.

make clear that the ability of IVDS licensees to provide service to non-fixed (*i.e.*, mobile) locations is not ancillary to or dependant upon the provision of fixed service.

Increased Duty Cycle and Transmitting Power. The Commission has imposed a number of operational and technical restrictions upon IVDS operations in order to protect TV Channel 13 facilities that transmit in spectrum in close proximity to the IVDS allocation. For example, the Commission's rules place stringent power limitations on both CTS and RTU transmitters.¹² In addition, the rules impose a maximum five second per hour "duty cycle" limitation on each RTU transmitter.¹³ This rule limits each RTU to a maximum transmission time of five seconds per hour or, alternatively, a transmission duration not to exceed one percent within any 100 millisecond interval.¹⁴

In their effort to devise alternative IVDS applications, the members of the National Action Group have found that the FCC's technical parameters significantly inhibit their operational flexibility. For example, the five second duty cycle limitation hinders the development of high-speed, two-way data services or monitoring services

¹² See 47 C.F.R. § 95.855(a).

¹³ See 47 C.F.R. § 95.863.

¹⁴ It should be noted that the alternative "one percent within any 100 millisecond interval" duty cycle limitation actually permits a total of 36 seconds of transmission time per hour from each RTU.

that require long-term transmissions in isolated instances.¹⁵ The duty cycle limitation can also be viewed as anticompetitive considering that other data service providers are not required to comply with a similar restriction. While the National Action Group recognizes the need to protect TV Channel 13 operations, it respectfully asks the Commission to review these technical rules and provide additional flexibility where it can be demonstrated that no corresponding increase in interference will result.

For example, application of rules designed to safeguard TV Channel 13 makes little sense in areas where no TV Channel 13 service is provided. Given the maturity of the VHF television service, the Commission can now safely allow increased use of adjacent band spectrum with little need to protect future TV stations. Therefore, in the case of IVDS systems located outside of a TV Channel 13 protected Grade B contour, the National Action Group urges the Commission to: (1) eliminate the RTU duty cycle requirement; (2) allow mobile RTU devices to operate with up to one watt rather than 100 milliwatts ERP; and (3) permit CTS to operate with greater power.

The duty cycle limitation on RTU transmissions was adopted to limit the number of instances where interference could occur to a TV receiver tuned to Channel 13 in the immediate vicinity of the RTU. Where there is no TV receiver tuned to TV Channel 13, the duty cycle limit becomes an unnecessary impairment to the

¹⁵ One possible use of IVDS services could involve home health care monitoring of patients under doctors' supervision. For example, if a patient connected to an IVDS heart monitor were to suffer cardiac arrest, the physicians in charge would need to receive constant data on the patient's condition. The five second per hour duty cycle limit makes the rendition of this service, using IVDS spectrum, impossible.

development of alternative IVDS applications. Likewise, the proposed 100 milliwatt power limitation for mobile RTU operations appears overly conservative in areas beyond the Grade B contour of TV Channel 13 stations.

With regard to greater operating powers for CTS transmitters, 47 C.F.R. § 95.859(a)(2) currently allows CTS stations located more than 10 miles beyond the predicted Grade B contour of a TV Channel 13 station to operate with up to 20 watts ERP at antenna heights below 500 feet above average terrain.¹⁶ Under this rule, as the height of the antenna is increased, power must be decreased. For antenna heights exceeding 1000 feet above average terrain -- which is common in urban areas where the transmitter is located at the top of a high rise building or a skyscraper -- CTS power must be reduced to 1.2 watts ERP. Even more severe, once CTS transmitters are located less than 10 miles beyond a TV Channel 13 Grade B contour, their maximum permitted power must be reduced into the milliwatt range when operated above 1000 feet above average terrain.¹⁷ IVDS licensees have found that at these frequencies, transmissions of such low power have difficulty penetrating buildings, which greatly reduces the workability of most potential applications. Therefore, the FCC should review these rules to ensure that licensees are able to operate with adequate powers in all circumstances.

¹⁶ See 47 C.F.R. § 95.855.

¹⁷ See 47 C.F.R. §§ 95.859(a)(1), 95.855(b).

The ability of IVDS licensees to deploy a nationwide infrastructure will be greatly enhanced with liberalization of the CTS transmitter power rules. Greater flexibility is required in order to minimize deployment costs while keeping in mind the need to protect broadcast television service. For example, the Commission could allow greater powers for IVDS transmitters located at or near the TV Channel 13 Grade B contour, up to 20 watts ERP, where the CTS transmitter is located a sufficient distance away from dwellings containing television receivers. Often times, simply locating upon existing radio communication towers will provide the necessary separation to prevent IVDS transmitters from interfering with TV reception.¹⁸ The National Action Group urges the FCC to consider these additional flexibilities.

Even where the service areas of IVDS operations and TV Channel 13 stations overlap, the National Action Group strongly urges the Commission to revisit the five second RTU duty cycle limit. One possible application of IVDS that is effectively prohibited because of the duty cycle limit is the ability to perform credit card verifications at point-of-sale terminals or cash registers. This potential use of IVDS is wholly consistent with the FCC's original intent in establishing the IVDS and with the general IVDS service rules.¹⁹ In accordance with the proposed technical scheme for

¹⁸ The magnitude of the required separation is in the hundreds of feet. The National Action Group is currently analyzing the interference environment between broadcast television and IVDS and will provide further information to the FCC in its reply comments.

¹⁹ Credit card verifications at point-of-sales terminals would be providing fixed
(continued...)

provision of such service, each cash register or point-of-sale terminal within a particular store or building would be equipped with a separate RTU transmitter. As a result, periods of heavy usage are likely to occur, during which the five second per hour duty cycle would clearly affect service quality and reliability, particularly when redundancy and security measures are integrated into the communications protocol.

The above example describes a scenario where RTU units would operate in areas removed from residential areas watching TV Channel 13. Potential scenarios such as this are likely to become increasingly more common as licensees seek to utilize their spectrum in the most efficient manner. For example, one member of the National Action Group is negotiating to install fixed RTU transmitters on portable automated teller machines (ATMs) temporarily installed at fair grounds, beaches and other outdoor locales. Again, RTU operation in these cases would not be within the immediate vicinity of TV receivers. These RTUs, which operate "in the field," more closely resemble the operation of CTS transmitters. Significantly, CTS transmitters have no duty cycle limitation. Therefore, it would be logical for the Commission to remove the five second per hour duty cycle limit as applied to RTUs positioned and operated as CTSs (*i.e.*, 200 feet from a dwelling). These RTUs present no greater potential for interference than similarly powered, similarly positioned CTS stations. Coupled with the overarching obligation of IVDS providers to protect TV Channel 13

¹⁹(...continued)
communications service for purposes of interacting with a data delivery service. *See* 47 C.F.R. § 95.805.

operations, the development of such IVDS services should lead the FCC to question the continued relevancy of the five second duty cycle restriction.

In summary, the National Action Group strongly believes that additional technical flexibility is needed to assist this industry in developing marketable IVDS applications and services. Additional flexibility in operating power and permissible transmission time will enable the IVDS industry to address the needs of market niches as it endeavors to develop successful interactive video offerings.

Non-ancillary CTS-to-CTS Transmissions. Finally, the National Action Group requests the Commission to amend Section 95.805(b) of the rules to allow CTS-to-CTS transmissions on a primary (*i.e.*, non-ancillary) basis. In the original proceeding establishing the IVDS, the Commission adopted the basic two-way, CTS-to-RTU system description because it was consistent with the vision of IVDS as a system consisting of a single cell or a number of interconnected cells, each with a CTS and multiple RTUs as components.²⁰ The Commission did, however, permit "ancillary" CTS-to-CTS communications within the same IVDS service area.²¹

As discussed above, IVDS licensees have found that the original conception of IVDS is unduly restrictive and prohibits the provision of numerous potentially viable applications that could satisfy existing consumer demands for communications services. Rule changes that would allow primary CTS-to-CTS transmissions would, for example,

²⁰ *IVDS Report and Order*, 7 FCC Rcd at 1638.

²¹ *See* 47 C.F.R. § 95.805(b).

permit an efficient, low-cost, alternative to existing packet radio offerings and increase the level of competition in the niche packet radio market. A primary advantage to use of IVDS spectrum for packet radio offerings is the fact that IVDS operators are able to by-pass the landline exchange system, cutting costs dramatically. Significantly, as with the other limitations described above, the rule restricting CTS-to-CTS transmissions to an ancillary-only basis does not reduce the potential for interference to Channel 13 or any other licensee. As such, removal of this limitation would not increase the potential for interference.

IV. Conclusion

For the reasons set forth above, the National Action Group applauds the Commission's proposal to permit IVDS licensees to provide mobile services. In addition to recognizing that IVDS licensees require greater technical and operational flexibility to realize the full potential of IVDS, the Commission has acknowledged that important public interest benefits will be gained by permitting IVDS licensees to compete in a variety of service offerings. In these comments, the members of the National Action Group have attempted to identify several other rules that prevent IVDS from fulfilling its potential as a viable competitor in the communications marketplace. The National Action Group submits that by amending the rules in the respects identified above, the Commission will allow IVDS to emerge as a robust and viable

player in numerous communications services and will help ensure the long-term success of IVDS generally.

Respectfully submitted,

A handwritten signature in black ink that reads "John Bartlett" with a stylized flourish at the end.

John L. Bartlett

Counsel to the National Action Group for IVDS

June 26, 1995